**Spring Break HW** Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Review MEA 601/MEA 702** Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per\_\_

Assessment results for standards MEA 601 and MEA 702 were low overall in geometry classes. These problems involve pulling together multiple concepts learned over the course of the year together in one complex problem—formulas for area, perimeter, rules for side lengths of special triangles, etc. It is important that we use critical thinking when solving these problems. It is also important that we follow a certain strategy when the problem seems overwhelming or confusing.

Look at the example below and use the same strategy when solving MEA 601 and MEA 702 problems.

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|  | **Example 1:** In the figure below, two white congruent circles just fit into the gray circle. What is the area that appears gray?  4 in | **Example 2:** A square and a semicircular region have the same perimeter. If the length of the radius of the semicircular region is 4 cm, what is the length of one side of the square in cm? |
| **Step 1:** Identify the figures in the problem. If necessary, draw a sketch. |  |  |
| **Step 2:** Identify given information. |  |  |
| **Step 3:** Identify what the question is asking you for as a final answer. |  |  |
| **Step 4:** Use this given information to derive other information about the figure.  **\*Think: How can I come up with more information about my figures that will help me arrive at what I’m being asked to solve for?** |  |  |
| **Step 5:** Once you have a final answer, decide if it’s “reasonable.” Check your work. |  |  |
|  | 1) The circumference of a circle and the perimeter of an equilateral triangle are the same. If the diameter of the circle is 18 cm, what is the length of the side of the triangle? | |
| **Step 1:** Identify the figures in the problem. If necessary, draw a sketch. |  | |
| **Step 2:** Identify given information. |  | |
| **Step 3:** Identify what the question is asking you for as a final answer. |  | |
| **Step 4:** Use this given information to derive other information about the figure.  **\*Think: How can I come up with more information about my figures that will help me arrive at what I’m being asked to solve for?** |  | |
| **Step 5:** Once you have a final answer, decide if it’s “reasonable.” Check your work. |  | |

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|  | 2) The diameter of a circle and the hypotenuse of an isosceles right triangle have the same length. If the length of one of the legs of the isosceles right triangle is 10 cm, what is the circumference of the circle? |
| **Step 1:** Identify the figures in the problem. If necessary, draw a sketch. |  |
| **Step 2:** Identify given information. |  |
| **Step 3:** Identify what the question is asking you for as a final answer. |  |
| **Step 4:** Use this given information to derive other information about the figure.  **\*Think: How can I come up with more information about my figures that will help me arrive at what I’m being asked to solve for?** |  |
| **Step 5:** Once you have a final answer, decide if it’s “reasonable.” Check your work. |  |

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|  | 3) In the figure below, ABCD is a square. Points on each pair of adjacent sides of ABCD are connected to form 4 congruent right triangles with one leg four times as long as the other, as shown below. What fraction of the area of square ABCD is shaded?  A  4x  x  B  D  C |
| **Step 1:** Identify the figures in the problem. If necessary, draw a sketch. |  |
| **Step 2:** Identify given information. |  |
| **Step 3:** Identify what the question is asking you for as a final answer. |  |
| **Step 4:** Use this given information to derive other information about the figure.  **\*Think: How can I come up with more information about my figures that will help me arrive at what I’m being asked to solve for?** |  |
| **Step 5:** Once you have a final answer, decide if it’s “reasonable.” Check your work. |  |